CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/WNo.15/KRIDL/GSB-1/2014-15 Date : 11.10.2014

GRADATION FOR GSB (CLOSE GRADED)
IS : 2720 (Part - 4)

Client : **Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.

Agency : **Technical Manager (West),** KRIDL, Bangalore.

Name of Work : Improvements & Asphalting of S. Ramesh Road to Kaliyamma Temple & Temple Opp. Road in Dasarahalli Ward No. 15, BBMP, Bangalore.

Reference : BBMP/DZ/AEE/TDSD/PR/2014-15 Dated: 06.10.2014

Date of Testing : 11.10.2014

Sample Source : GSB, Mix plant Bangalore **Oven Dry Wt (gm) :** 25350

TABLE – 1

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specified Limits
75.0	0	0	0.00	100	100
53.0	1212	1212	4.78	95.22	80-100
26.50	4636	5848	23.07	76.93	55-90
9.50	3494	9342	36.85	63.15	35-65
4.75	4072	13414	52.92	47.08	25-55
2.36	4839	18253	72.00	28.00	20-40
0.425	3156	21409	84.45	15.55	10-25
0.075	2385	23794	93.86	6.14	3-10
PAN	1556				
Total	25350				

Remarks: Satisfies MORTH Specifications as per Table 400-1, Grading I

Note:

1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory.
3. Any Query regarding the report must be reported within 30 days from the date of testing.

M/s. Civil-Tech Consultants & Engineers
23/14, 7th Cross, 3rd Stage,
4th Block, Shakthiganapathinagara,
Basaveshwaranagar,
Bangalore-560079.

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/WNo.15/KRIDL/WMM/Gradation/2014-15

17.10.2014

GRADATION FOR WMM
MORTH TABLE-400-11

Customer : **Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.

Agency : **Technical Manager (West),** KRIDL, Bangalore.

Name of Work : Improvements & Asphalting of S. Ramesh Road to Kaliyamma Temple & Temple Opp. Road in Dasarahalli Ward No. 15, BBMP, Bangalore.

Reference : BBMP/DZ/AEE/TDSD/PR/2014-15 Dated: 06.10.2014

Date of Testing : 16.10.2014

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): **27670**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	543	543	2.0	98.0	95-100
22.4	5316	5859	21.2	78.8	60-80
11.2	6842	12701	45.9	54.1	40-60
4.75	5416	18117	65.5	34.5	25-40
2.36	4132	22249	80.4	19.6	15-30
0.600	1318	23567	85.2	14.8	8-22
0.075	2318	25885	93.5	6.5	0-8

Note:

1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory.
3. Any Query regarding the report must be reported within 30 days from the date of testing.

M/s. Civil-Tech Consultants & Engineers
23/14, 7th Cross, 3rd Stage,
4th Block, Shakthiganapathinagara,
Basaveshwaranagar,
Bangalore-560079.

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/W.No.15/KRIDL/BM/Bitumen/2014-15 23.10.2014

BITUMEN DETERMINATION OF BITUMINOUS MACADAM MIX

As per IRC : SP : 11 - 1984

CLIENT	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
AGENCY	**Technical Manager (West),** KRIDL, Bangalore.
NAME OF THE WORK	Improvements & Asphalting of S. Ramesh Road to Kaliyamma Temple & Temple Opp. Road in Dasarahalli Ward No. 15, BBMP, Bangalore.
REFERENCE	BBMP/DZ/AEE/TDSD/PR/2014-15 Dated: 06.10.2014
SAMPLE I/D	Kaliyamma Temple Road, Ward No. 15
DATE OF TESTING	23.10.2014

BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	482	482
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	18	18.00
7. Bitumen content in %	3.60	3.60
8. Average	**3.60**	

Note:

Þ This test report should not be reproduced except in full, without written approval of the laboratory

Þ The results indicated above are based on the tests carried out on the samples received in the laboratory

Þ Any Query regarding the report must be reported within 30 days from the date of testing

M/s. Civil-Tech Consultants & Engineers
23/14, 7th Cross, 3rd Stage,
4th Block, Shakthiganapathinagara,
Basaveshwaranagar,
Bangalore-560079

CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/W.No.15/KRIDL/BM/Gradation/2014-15 23.10.2014

GRADATION DETERMINATION OF BITUMINOUS MACADAM MIX

As per IS : 2386 and IRC : SP : 11 - 1984

CLIENT	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
AGENCY	**Technical Manager (West),** KRIDL, Bangalore.
NAME OF THE WORK	Improvements & Asphalting of S. Ramesh Road to Kaliyamma Temple & Temple Opp. Road in Dasarahalli Ward No. 15, BBMP, Bangalore.
REFERENCE	BBMP/DZ/AEE/TDSD/PR/2014-15 Dated: 06.10.2014
SAMPLE I/D	Kaliyamma Temple Road, Ward No. 15
DATE OF TESTING	23.10.2014

GRADATION AFTER EXTRACTION

Sieve Size in mm	Trail 1				Specified Limits as per MORTH specification table 500-04 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
26.5	0	0	0	100	100
19	23.25	4.82	4.82	95.18	90-100
13.2	97.68	20.27	25.09	74.91	56-88
4.75	217.36	45.10	70.18	29.82	16-36
2.36	86.45	17.94	88.12	11.88	4-19
0.3	31.52	6.54	94.66	5.34	2-10
0.075	10.69	2.22	96.88	3.12	0-8

Sieve Size in mm	Trail 2				Specified Limits as per MORTH specification table 500-04 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
26.5	0	0	0	100	100
19	25.18	5.22	5.22	94.78	90-100
13.2	87.69	18.19	23.42	76.58	56-88
4.75	212.65	44.12	67.54	32.46	16-36
2.36	75.46	15.66	83.19	16.81	4-19
0.3	46.25	9.60	92.79	7.21	2-10
0.075	12.35	2.56	95.35	4.65	0-8

Note:

- This test report should not be reproduced except in full, without written approval of the laboratory.
- The results indicated above are based on the tests carried out on the samples received in the laboratory.
- Any Query regarding the report must be reported within 30 days from the date of testing

M/s. Civil-Tech Consultants & Engineers
23/14, 7th Cross, 3rd Stage,
4th Block, Shakthiganapathinagara,
Basaveshwaranagar,
Bangalore-560079

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/W.No.15/KRIDL/BC/Bitumen/2014-15 24.10.2014

BITUMEN CONTENT DETERMINATION OF BITUMINOUS CONCRETE MIX

As per IRC:SP:11-1984

CUSTOMER	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
AGENCY	**Technical Manager (West),** KRIDL, Bangalore.
NAME OF THE WORK	Improvements & Asphalting of S. Ramesh Road to Kaliyamma Temple & Temple Opp. Road in Dasarahalli Ward No. 15, BBMP, Bangalore.
REFERENCE	BBMP/DZ/AEE/TDSD/PR/2014-15 Dated: 06.10.2014
SAMPLE I/D	Kaliyamma Temple Road, Ward No. 15
DATE OF TESTING	24.10.2014

BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	474.5	473.5
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	25.5	26.50
7. Bitumen content in %	5.10	5.30
8. Average	**5.20**	

Note:

Þ This test report should not be reproduced except in full, without written approval of the laboratory

Þ The results indicated above are based on the tests carried out on the samples received in the laboratory

Þ Any Query regarding the report must be reported within 30 days from the date of testing

M/s. Civil-Tech Consultants & Engineers
23/14, 7th Cross, 3rd Stage,
4th Block, Shakthiganapathinagara,
Basaveshwaranagar,
Bangalore-560079

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/W.No.15/KRIDL/BC/Gradation/2014-15 24.10.2014

GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

As per IS2386 and IRC:SP:11-1984

CUSTOMER	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
AGENCY	**Technical Manager (West),** KRIDL, Bangalore.
NAME OF THE WORK	Improvements & Asphalting of S. Ramesh Road to Kaliyamma Temple & Temple Opp. Road in Dasarahalli Ward No. 15, BBMP, Bangalore.
REFERENCE	BBMP/DZ/AEE/TDSD/PR/2014-15 Dated: 06.10.2014
SAMPLE I/D	Kaliyamma Temple Road, Ward No. 15
DATE OF TESTING	24.10.2014

GRADATION AFTER EXTRACTION

Sieve Size in mm	Trail 1				Specified Limits as per MORTH specification table 500-18 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
19	0	0	0	100	100
13.2	46.13	9.72	9.72	90.28	79-100
9.5	38.56	8.13	17.85	82.15	70-88
4.75	64.75	13.65	31.49	68.51	53-71
2.36	93.62	19.73	51.22	48.78	42-58
1.18	45.27	9.54	60.77	39.23	34-48
0.6	42.16	8.89	69.65	30.35	26-38
0.3	33.59	7.08	76.73	23.27	18-28
0.15	31.28	6.59	83.32	16.68	12-20
0.075	48.92	10.31	93.63	6.37	4-10

Sieve Size in mm	Trail 2				Specified Limits as per MORTH specification table 500-18 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
19	0	0	0	100	100
13.2	47.25	9.98	9.98	90.02	79-100
9.5	39.64	8.37	18.35	81.65	70-88
4.75	72.45	15.30	33.65	66.35	53-71
2.36	57.42	12.13	45.78	54.22	42-58
1.18	75.23	15.89	61.67	38.33	34-48
0.6	37.98	8.02	69.69	30.31	26-38
0.3	29.13	6.15	75.84	24.16	18-28
0.15	36.45	7.70	83.54	16.46	12-20
0.075	52.73	11.14	94.67	5.33	4-10

Note:

Þ This test report should not be reproduced except in full, without written approval of the laboratory.

Þ The results indicated above are based on the tests carried out on the samples received in the laboratory.

Þ Any Query regarding the report must be reported within 30 days from the date of testing

M/s. Civil-Tech Consultants & Engineers
23/14, 7th Cross, 3rd Stage,
4th Block, Shakthiganapathinagara,
Basaveshwaranagar,
Bangalore-560079.

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com